

USAWC STRATEGY RESEARCH PROJECT

AMPHIBIOUS OPERATIONS IN THE 21st CENTURY

by

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The views expressed in this academic research paper are those of the author and do not necessarily reflect the official policy or position of the U.S. Government, the Department of Defense, or any of its agencies.

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ABSTRACT

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Amphibious forces have always been a mainstay in the Combatant Commander's quiver of options for operations ranging from Major Theater War to Humanitarian Operations. Although the many threats faced by the United States and our allies continue to evolve and geo-political issues constantly shift centers of gravity, the ability to rapidly put U. S. forces ashore anywhere in the world remains a vital capability. As the National Security Strategy evolves the role of the modern day amphibious force evolves with it, morphing to meet the requirements generated by the Department of Defense. In an era of shrinking defense budgets and expanding requirements, amphibious forces will be required to respond across the full spectrum of violence from large-scale combat operations to non-combatant evacuation and humanitarian operations.

Already a powerful tool, the merger of such new operational concepts as Operational Maneuver from the Sea (OMFTS), Ship to Objective Maneuver (STOM), and Sea Basing with the new and emerging MV-22, LPD-17 and AAV will ensure amphibious forces a major role into the 21st Century.

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AMPHIBIOUS OPERATIONS IN THE 21ST CENTURY

Amphibious flexibility is the greatest strategic asset that a sea power possesses.

—B.H. Liddell Hart
Deterrence or Defense, 1960

The “New World Order” is not what we’d hoped for. The end of the Cold War and the emergence of new non-state and irrational actors have created a more disorderly world stage. In response to economic, political and media pressure, the Department of Defense has demanded major military transformation. In response, each service is planning and executing changes to reshape the forces that will respond to future threats and requirements. These changes include procurement, cultural, personnel and doctrinal modifications that will best prepare Defense Department forces to address the variety of challenges that lay ahead.

Today’s naval forces combine highly trained and motivated sailors and Marines with 21st Century ship and aircraft technology to produce a flexible and powerful expeditionary force. The looming question on the not so distant horizon is how we can best utilize this highly capable force while ensuring interoperability with the other services as each independently transforms to meet our nation’s changing defense requirements. Transformed amphibious forces provide the geographic combatant commander with a very capable force to respond to tomorrow’s challenges.

THE HISTORY AND ROLE OF AMPHIBIOUS WARFARE

Amphibious operations have historically been conducted against hardened areas with high stakes at hand. The early evolution of amphibious warfare was based in combat lessons acquired at a very high price. The first American amphibious operations took place in 1776 when a party of Marines and blue jackets raided Nassau in the Bahamas. United States Marines participated with United States Army forces in sustained combat operations during the capture of Mexico City in 1847 and defense of the American Legation during the Boxer rebellion in 1900. They also participated in the Meuse-Argonne offensive during World War I and conducted other special missions such as the capture of John Brown at Harper’s Ferry, West Virginia. From 1776 to 1941, there were over 180 landing operations.¹ Some 600 landings occurred during World War II alone, ranging in size and complexity from small river crossings to full multi-division assaults. Almost all were successes although some, such as the British raid at Dieppe on the English Channel Coast, failed spectacularly. The largest amphibious assault in history

took place at Normandy as the Anglo-American force crossed the English Channel for the D-Day landings.

The defining characteristic of expeditionary operations is the projection of forced entry into a foreign setting.² In the years between World War I and World War II, the Marines created modern day amphibious warfare. The Marine Corps concept of creating combined arms expeditionary forces to exploit the synergy of task organized Marine Corps aviation, ground combat and combat service support forces was codified by the National Security Act of 1947.³ Combined arms expeditionary maneuver warfare has achieved the capability to strike deep from the littorals and is no longer restricted to the traditional boat wave assault across the beach. Modern expeditionary operations encompass the entire range of military operations from humanitarian assistance to forcible entry in a major theater war

TRANSFORMATIONAL INITIATIVES

Following the failure of Desert One and the messy Grenada Operations, Congress mandated changes to the way joint operations are conducted. The Goldwater-Nichols act of 1986 redefined responsibilities within the Defense Department and greatly expanded the roles and responsibilities of the combatant commanders. It tasked the services to provide forces to the combatant commanders who are responsible for the conduct of operations within their geographic areas. Current amphibious forces provide combatant commanders with flexible response options across the entire spectrum of conflict. Pre-positioned ships developed in the 1980's and the new Sea Basing and Sea Shield concepts combine with modern Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C⁴ISR) architecture to produce a very capable and flexible expeditionary capability.

Among a host of competing issues facing the Bush Administration is growing pressure (both domestic and international) for the armed forces to withdraw from forward bases. This pressure is amplified by concurrent demands for a more even-handed approach to the Middle East. These and other factors may entice the United States to withdraw forces abroad and reduce our forward presence. This reduction in forward bases may make the large scale amphibious assault as important tomorrow as it was fifty years ago.⁴ If the United States adopts a strategy following these guidelines, forward based forces would be reduced or eliminated, creating an even greater demand for expeditionary forces.

AMPHIBIOUS WARFARE CAPABILITIES

As the Department of Defense transforms, amphibious operations may grow in scope and importance. The ability of the Amphibious Ready Group (ARG) to be positioned just off an

enemy coastline in international waters for extended periods of time and respond very quickly to a developing political crisis is certainly an asset to a combatant commander. Transformational hardware technologies, including the MV-22 Osprey tilt rotor aircraft, the AAV (Advanced Amphibious Assault Vehicle), improved C⁴ISR systems and new doctrinal concepts such as Expeditionary Maneuver Warfare (EMW), will enable the modern amphibious force to bring more to the fight than ever before.

Amphibious operations are doctrinally defined to include; amphibious assaults, amphibious withdrawals, amphibious demonstrations, amphibious raids, and “other amphibious operations.” An amphibious assault involves the establishment of a Landing Force (LF) on a hostile shore. An amphibious withdrawal is the extraction of forces by sea in ships or craft from a hostile shore. An amphibious demonstration is a show of force conducted to deceive with the expectation of deluding the enemy into a course of action unfavorable to it. An amphibious raid is a swift incursion into, or a temporary occupation of an objective, followed by a planned withdrawal.⁵ As discussed in the U.S. Joint Doctrine for Amphibious Operations, “the capabilities of amphibious forces may be especially suited to conduct other types of operations, such as noncombatant evacuation operations and foreign humanitarian operations.”⁶

The inherently task organized Navy and Marine Corps elements of an Amphibious Task Force/Group/Unit train and work together and offer the geographic combatant commander with scalable combined arms expeditionary warfare capabilities independently appropriate to lesser contingencies and useful as part of a larger joint task force across the spectrum of violence. In this sense, naval expeditionary forces have been a joint war fighting team for decades. Interoperability between the Navy and Marine Corps is standard operating procedure.

AMPHIBIOUS TASK FORCE

An Amphibious Task Force (ATF) can rapidly and efficiently establish a presence in littoral regions without the requirement for host nation support or over flight rights.⁷ It may be U.S.-only or may include multi-national forces and is defined as the Navy task organization formed to conduct amphibious operations. The Commander of the Amphibious Task Force (CATF) and the Commander of the Landing Force (CLF) work closely together and ensure clarity as to who has primary responsibility for the essential tasks during each phase of amphibious operations.

Logistics planning for an amphibious operation is the responsibility of the CATF. All requirements that cannot be supported by the ATF are directed to the applicable service component through the chain of command established in the initiating order. The CATF coordinates active defense plans and procedures with the Area Air Defense Coordinator

(AADC) and attack/strike operations with the Joint Force Air Component Commander (JFACC). For transfer of airspace control and counter-air responsibilities ashore to occur, an appropriate agency must be established for air operations planning, air control and counter air. This agency is either the Tactical Air Commander (TAC) ashore when the LF is Marine Corps, or an Air Operations Center (AOC) when the LF is a U.S. Army task organization.⁸

LANDING FORCE

The LF is defined as “a Marine Corps or Army task organization formed to conduct amphibious operations.”⁹ Using this definition, it is easy to envision the JFC’s flexibility in assembling, tailoring and task organizing the LF. The CLF is responsible for the landing force. The LF C⁴ISR element will embark in functionally operational spaces, normally built on Navy C⁴ISR infrastructure. These spaces will be complete with permanent access to the voice, data and video systems necessary for the landing force’s situational awareness.¹⁰

The relationship between the CATF and CLF is one of mutual support. Under Joint Publication JP 3-02, Joint Doctrine for Amphibious Operations, the establishing authority may choose from a variety of command relationship options among the CATF, CLF, and other designated commanders involved in amphibious operations.¹¹ A key element of success in any amphibious operation is close cooperation and coordination between the ATF, LF, and other designated forces. Because the amphibious operation may require air, sea, land, space and special operations forces, close integration of well trained, well equipped forces is vital.

FORWARD FROM THE SEA

Over the Horizon (OTH) operations have been seen as an operational advantage to a blue water Navy since the beginning of the Cold War. Tactically, OTH operations reduce potential threats such as shallow water mines, small boat attacks, and surface to surface anti-ship cruise missiles and are conducive to phased at sea assembly. The goal of phased at sea assembly is the elimination of the need for ports and airfields within the Joint Operation Area (JOA) that traditionally are the key ingredients of reception, staging, onward movement and integration, but are vulnerable to neutralization or denial by adaptive enemies. Looking ahead, reconstitution at sea gives the Joint Force Commander (JFC) another organic advantage in that the force can be re-established to continue the current mission or re-packaged and moved to support a different mission or change in tasking.

The recent contributions of Special Operations Forces (SOF) in Afghanistan have proved how important their role is in modern day warfare. A special operations element can be enhanced by the presence of an OTH, Sea Based supporting operation. Insertion, extraction,

fire support, sustainment, medical facilities and mail are all continuously available from just over the horizon.¹² A barrier to many nations, the sea is a force multiplier in Sea Based operations, with seventy percent of the Earth's surface water, and eighty percent of the population living in the littoral regions. The littorals are characterized by well populated coasts, large urban areas, and the intersection of trade routes.¹³ The fall of the Soviet Union removed the blue water threat and drove a renewed focus on littoral operations. This meant a great shift in the perceived threat to naval forces.

EXPEDITIONARY MANEUVER WARFARE

Transformation is more than just modernizing platforms and equipment. With the modernization of U.S. naval forces nearly completed, future amphibious warfare focuses more on the employment of amphibious forces and their interoperability with other services. Cultural changes will be required. However, cultural transformation can be difficult. With respect to amphibious operations, it begins with an understanding of the concepts of maneuver warfare. Maneuver warfare theory accepts that war is by its nature disorderly. It is dominated by uncertainty, rapid and unexpected changes, and friction. Maneuverists view Clausewitz's concept of friction as, "that in war everything is simple, but even the simplest thing is extremely difficult." This view of the nature of war underlies all other maneuver warfare concepts, because it demands that they all be consistent with it.¹⁴

The maneuver warfare tactics used by the German storm troopers in World War I are a good example for the basis for modern maneuver warfare tactics. Maneuver warfare tactics include a defense in depth that combines position, ambushes and small units operating independently to harass, confuse and pin: and an attack that penetrates in multiple thrusts aimed at weak points, reinforces success and exploits without too much concern for flanks, and uses speed as its preeminent weapon.¹⁵ By applying these concepts through the ships, aircraft, and combat systems of 2015 and beyond, we see a capable and transformed naval expeditionary force of the future.

Dominant maneuver, precision engagement, focused logistics, and full dimensional protection are the four key elements of Joint Vision 2020 contributing to the goal of full spectrum dominance.¹⁶ Continuing toward attaining that goal requires the steady infusion of new technology and the modernization of equipment. While current inventories meet requirements, new technologies such as tilt-rotor aircraft, Unmanned Underwater Vehicles (UUVs), and advanced C⁴ISR systems will ensure success. The combination of tried and tested operational

tenants combined with these new technologies will produce a forward deployed, power projection capability ready to respond to the combatant commander's requirements.

EMW seeks to gain operational and tactical advantage by putting well trained, well equipped, agile, networked forces into the enemy's weaknesses, thereby overmatching him with surprise, tempo and maneuver speed. EMW can be conducted alone or as part of a Joint Task Force (JTF) working under the command of the Joint Forces Maritime Component Commander (JFMCC) and is designed to: achieve campaign objectives in one swift movement, comprise the initial phase of a campaign or major operation, serve as a supporting operation, or support Military Operations Other Than War (MOOTW).

Within any amphibious operation, the Marine Corps, as part of an amphibious force, can accomplish a number of tasks to facilitate naval and joint operations: attacking the enemy Center of Gravity (COG) or critical vulnerabilities; seizing a lodgment to include ports and airfields for the introduction of follow on forces; seizing areas for the development of advanced bases; destroying, neutralizing or seizing enemy advanced bases or support facilities; seizing or conducting a preemptive occupation of areas that block free passage by opposing forces.¹⁷ A key element of operational planning is understanding whether these types of operations will be conducted in a permissive, uncertain, or hostile environment.

As the term implies, maneuver warfare is based on a flexible, moving force that attacks the adversary's weak points. Modern day amphibious forces will focus on movement not for movement's sake alone, for this can create confusion, inefficiency and logistical problems. A mobile, combined arms, expeditionary force will be maneuvered, supplied and re-maneuvered as necessary against the enemy center of gravity. In the past, naval maneuver forces were limited by the extensive logistics tail that accompanied any operation due to large caliber ammunition, fuel and inaccurate aviation ordnance. Technology has provided improvements in precision long range weapons, greater reliance on Sea Based fire support and a reduction in the supply tail and associated supply ships. This will drastically reduce the build-up phase and allow expeditionary forces to conduct Operational Maneuver from the Sea (OMFTS) and the tactical application, Ship to Objective Maneuver (STOM).¹⁸

OPERATIONAL MANEUVER FROM THE SEA (OMFTS)

OMFTS is not merely a way of introducing an expeditionary force onto foreign soil but also of projecting expeditionary power directly against a center of gravity or critical vulnerability.¹⁹ Underlying principles of OMFTS include: focusing on an operational objective; using the sea as maneuver space; generation of overwhelming tempo and momentum; pitting strengths against

weaknesses; emphasis on intelligence, deception, and flexibility; integration of all organic joint and combined assets. The Marine Corps developed OMFTS in response to the change in the global threat from the cold war to the chaos in the littorals.

“The Marine Corps is committed to exploiting the strategic inflection point in military affairs by focusing experimentation, research, development, and procurement strategies on bringing the doctrinal concept known as Operational Maneuver from the Sea (OMFTS) to fruition. OMFTS is a marriage between maneuver and naval warfare. From maneuver warfare comes an understanding of the nature of conflict, the imperative of decisive objectives, and the requirement for skillful operations at a high tempo. Naval warfare contributes a deep appreciation of the strategic and operational levels, advantages inherent in sea borne movement, and flexibility afforded by sea-based logistics, fire support and force sustainment. The heart of OMFTS is the maneuver of naval forces on the operational level to exploit enemy vulnerabilities to deal a decisive blow.”²⁰

OMFTS will enhance what the naval expeditionary force provides to the combatant commanders by providing a task-organized, Sea Based, Operational Maneuver Element (OME) that can respond across the spectrum of conflict. Because expeditionary forces operate in international waters and are not restrained by global political pressures, the ability to respond quickly to a combatant commander’s requirement is key when a quick U.S. response is necessary.

Concepts that help provide flexibility, protection and decisive impact to OMFTS are operational depth, mission depth, tempo, reach back, enabling force and exploitation force. The operational depth of the enemy can be exploited by task organizing the Marine Air Ground Task Force (MAGTF) to a level appropriate to defeat the enemy and no more. This allows for conservation of resources. As General Krulak outlines in his three-block war scenario where fighting, peacekeeping and humanitarian operations take place simultaneously:

“To defeat the complex and dynamic threats of 2010 and beyond, we must field a naval force that can respond to a wide variety of contingencies across the conflict spectrum—from disaster relief and humanitarian operations to full-fledged sustained combat at sea and ashore. It must be organized, trained and equipped with weapons and doctrine to simultaneously meet multiple challenges throughout the spectrum.”

The versatility and mission depth of the OMFTS-capable force enable response throughout the spectrum of conflict literally fighting in one block while providing humanitarian assistance on an adjacent block. The overwhelming tempo that OMFTS allows is a critical element in overpowering the enemy with disorientation, shock and overmatch. Reach back refers to the ability of the force to coordinate with various agencies, non-governmental organizations, technical organizations and scientific centers with improved C⁴ISR. OMFTS enables

expeditionary forces to provide Army and Air Force flow when sustained operations are required. This can be as simple as creating the command and control architecture for the combatant commander to use or as complex as taking a forward air base for the flow of larger forces. An OMFTS-capable task force can also act as an exploitation force when serving as an OME by attacking units or supply depots of enemy forces already engaged by other friendly forces.²¹

The brilliant amphibious operation at Inchon in 1950 is a classic example of OMFTS. It's an evolutionary way of using forces assisted by greatly enhanced current capabilities such as Sea Basing, Sea Shield and Sea Strike. These enhancements will be in the form of new doctrine, organization, training and education, equipment, and technology.²² What distinguishes OMFTS from all other types of operational maneuver warfare is the extensive use of the sea as a means for gaining advantage, an avenue for friendly movement that is simultaneously a barrier to the enemy and a means of avoiding disadvantageous engagements. This aspect of OMFTS may make use of but is not limited to such techniques as Sea Based logistics, Sea Based fire support, and the use of the sea as a medium for tactical and operational movement.²³ OMFTS applies across the full spectrum of military operations, from Major Theater War (MTW) to Small Scale Contingencies (SSC) and applies maneuver warfare to expeditionary power projection in naval operations or as part of a joint or multinational campaign.

One of the enhancements that technology will provide OMFTS is the capability for modern Maritime Pre-positioned Force (MPF) ships to operate with the ARG in a sea echelon area. The MPF ships envisioned to replace our present aging hulls combine the speed of advanced hull design technology with leap ahead cargo systems. These new systems will enable tailored combat packages to be indexed, moved to staging areas on the ship's flight deck ready for movement ashore via tilt-rotor aircraft or transfer to an amphibious ship for further movement ashore from the sea echelon area. If a mission is cancelled, postponed or re-defined, equipment can be re-stowed and a new tailored package can be developed for retrieval in a fraction of the time required by current systems. The MPF and naval forces assembled in the sea echelon area can be maneuvered or remain on station until instructions are provided. When operating as part of a naval expeditionary force, amphibious forces will normally conduct operations using OMFTS.²⁴ Joint Force Maritime Marine and Navy service component commanders must work to ensure that naval forces, MPF, and Marine forces operating and originating from different bases are correctly marshaled, deployed and protected. Close coordination and protection of all assets is of the utmost importance.

OMFTS is not merely moving around the enemy but projecting power to the enemy's Center of Gravity (COG) on our terms. By using our maneuverable naval power to launch an assault at the time and place we determine, the enemy's weakness will be decisively exploited. OMFTS envisions making the beach transparent to amphibious warfare through STOM.²⁵

SHIP TO OBJECTIVE MANEUVER (STOM)

STOM is the tactical implementation of OMFTS which grew out of the white papers "From the Sea" and "...Forward, From the Sea," two publications that expanded the threat and area of engagement to the littorals. The purpose of STOM is to achieve the Joint Force Commander's (JFCs) operational objectives directly. It's the application of maneuver warfare to amphibious operations at the tactical level of war. Using the sea as maneuver space, as a protective barrier, and as an unrestricted avenue of approach, STOM eliminates the requirement for operational pause for the LF to build combat power ashore.²⁶

"Ship to Objective Maneuver employs the concepts of maneuver warfare to project a combined arms force by air and surface means against inland objectives. STOM takes advantage of emerging mobility and command and control systems to maneuver landing forces in their tactical array from the moment they depart the ships, replacing ponderous ship-to-shore movement of current amphibious warfare with true amphibious maneuver. Historically, reliance on Navy command and control during ship-to-shore movement and the requirement to establish a lodgment ashore worked counter to principle of maneuver warfare. By executing STOM, landing forces will exploit advanced technologies which will permit combined arms maneuver from over-the-horizon attack positions through and across the water, air, and land of the littoral battlespace directly to inland objectives."²⁷

Many early modern amphibious operations were aimed at hardened beachheads and included an operational pause for combat logistics build-up ashore. This logistics requirement not only meant an increase in rear-area security concerns, but also limited the speed and range of operations. The cumbersome build-up on an enemy beachhead enabled hostile forces to amass more combat power directly opposing the landing force and attempt to overmatch amphibious forces. Mine clearing operations, obstacle removal and fire support operations that were an integral part of the early amphibious operations telegraphed the intent and plans of the main amphibious assault. Although there are pre-assault operations associated with STOM, there is no need for a separate force to accomplish them.

To solve the problems associated with early modern amphibious operations, the Marine Corps uses STOM to come ashore and attack directly at the objective to achieve tactical as well as operational surprise. Amphibious operations no longer require the operational pause necessitated by build-up ashore. Instead, operations will begin over the horizon and will strike

further inland where defenses will be overrun by speed, surprise, shock after pre-assault operations confuse, distract and deceive enemy forces. Other advantages of STOM are the ability to conduct attacks at night and during adverse weather conditions against key enemy targets and enemy center's of gravity.

STOM is comprised of two main maneuver forces. The surface maneuver force and the vertical maneuver force. The surface force is comprised of Amphibious Assault Vehicles (AAVs), Landing Cushion Air Craft (LCACs), and Landing Craft Utility (LCUs) that provide multiple penetration options for each maneuver element.²⁸ The vertical maneuver force is comprised of CH-53E and CH-46E helicopters that provide transport of assault combat troops, supplies, and equipment. When used with supporting fires, the surface and vertical maneuver forces create a dilemma for enemy forces. If he reacts to the vertical envelopment, he will be vulnerable to the surface assault. On the other hand, if he builds defenses against the surface assault, he remains susceptible to vertical envelopment.

Another key enabler of STOM is the emergence of enhanced C⁴ISR capabilities. STOM calls for rapid projection of combined arms teams ashore, but emphasizes Sea Based C⁴ISR, logistics, and fire support. Improved C⁴ISR allows the command element to remain at sea away from enemy attack and better able to influence combat service support and logistics requirements. Satellite technology will provide the amphibious force with real time communications, data and imagery, allowing for an amphibious attack launched from the sea against an enemy COG. This emphasis on Sea Based support follows lock-step with Sea Power 21.

SEA POWER 21

There are three fundamentals that underpin Sea Power 21. They are Sea Basing, Sea Shield, and Sea Strike. Sea Basing enhances operational independence and support for the joint force; Sea Shield extends force protection assurance throughout the world; Sea Strike is the ability to project precise and persistent offensive power from the sea.²⁹ Sea Power 21 is the naval initiative to take advantage of the strategic inflection point in warfare that we are currently in, according to General Charles W. Krulak.³⁰ A strategic inflection point is when fundamentals of a certain discipline, warfare and military affairs in this instance, are about to change. The increasing and complex threats of Weapons of Mass Destruction (WMD), non-rational actors, unstable regimes, and a reduction of permanent land-based forces overseas make a strong case for having a robust, task-organized, combined arms expeditionary force, capable of responding to a wide array of contingencies across the conflict spectrum. The Chief of Naval

Operations (CNO) Admiral Vern Clark describes why Sea Power 21 is so important to the Navy:

“To realize the opportunities and navigate the challenges ahead, we must have a clear vision of how our Navy will organize, integrate and transform. Sea Power 21 is that vision. It will align our efforts, accelerate our progress and realize the potential of our people. Sea Power 21 will guide our Navy as we defend our nation and defeat our enemies in the uncertain century before us.”³¹

SEA BASING

Sea Basing is not a new concept but the current naval Sea Based concept is an enhanced network best described as the confluence of technology, concepts, and human ingenuity. Sea Basing enables EMW through a fully networked and interoperable combination of ATFs, Carrier Battle Group (CVBGs), MPF platforms, CLF ships, black bottom commercial shipping, emerging technologically advanced High Speed Vessels (HSV) and other advanced lighterage.³²

The advantage of a sea based, combined arms, expeditionary maneuver force is that it can loiter off the coastline in international waters, ready for the call to arms as long as there is ample sea room for maneuver. The other advantage of a mobile, Sea Based expeditionary force is that it's highly maneuverable and can be positioned, re-positioned, and then positioned again in response to the military situation and/or political pressures and allows for a phased at sea arrival and assembly area over the horizon. Force protection will be greatly enhanced as vulnerable command and combat service support elements accomplish their mission from the relative security of the Sea Base.³³

As the threat of chemical and biological attack on a Sea Port of Debarkation (SPOD) or an Air Point of Debarkation (APOD) increases, the ability of the expeditionary force to maneuver away from the agent(s) will greatly enhance tactical maneuver within the JOA. Moving to a new Littoral Penetration Area (LPA) is a preferred method of force protection against a chemical/biological agent. The Sea Basing concept allows the combatant commander to put the right force, at the right place, at the right time, all the time.³⁴ Sea basing is the foundation for the defense of the force, Sea Shield.

SEA SHIELD

In response to the littoral anti-access threat posed by sea mines, submarines, small boats and anti-ship cruise missiles, the CNO has embarked on Sea Shield which provides global defensive assurance. In a shift from traditional defense of the fleet on the high seas, Sea Shield expands that function to extend Sea Based theater and strategic defenses to the littorals. While yesterday's Navy defended sea lines of communication, tomorrow's Navy will provide assured

access and provide the first layer of homeland defense against asymmetric threats. By projecting security deep inland, Sea Shield will deter, dissuade, and decisively defeat adversaries and provide stability and security in uncertain environments.³⁵

This will be accomplished with comprehensive situational awareness capable of cueing intercepting units to prevent mine laying and other anti-access activities prior to enemy placement. Sea Shield calls for accelerated development of UUVs to greatly expand mine countermeasures capability. Achieving battle-space superiority in a forward theater is central to the Sea Shield concept, especially as enemy area denial becomes more capable. In times of rising tension, pre-positioned naval units will sustain access for friendly forces and maritime trade by employing evolving expeditionary sensor grids and advanced deployable systems to locate and track enemy threats. Speed will be an ally as linked sensors, high speed platforms, and improved kill vehicles consolidate area control, including the location and neutralization of mines via state-of-the-art technology on dedicated mine warfare platforms and battle group combatants.³⁶

CNO action steps regarding Sea Shield 21 to accomplish Sea Shield include expanding combat reach; deploying theater missile defense as soon as possible; creating common operational pictures for air, surface, and subsurface forces; accelerating the development of unmanned vehicles to operate in every environment; and investing in naval self defense capabilities.³⁷

SEA STRIKE

“Sea Strike is about taking the fight to the enemy. What we have learned in Afghanistan is the importance of persistent combat power and the ability to project that power at great ranges – to increase combat reach. That’s what Sea Strike is all about.”³⁸ That’s how the current CNO describes Sea Strike. The concept behind Sea Strike is to improve techniques to project power to the enemy with Marines, carrier-based aircraft, special operations forces, and land attack missiles. The current National Security Strategy (NSS) and National Military Strategy (NMS) emphasize the development of expeditionary capabilities and postulate a future with reduced permanent overseas basing of U.S. forces. It foresees an increase in the deployment/employment of expeditionary forces in response to the full spectrum of crisis situations. Other naval force multipliers such as Expeditionary Strike Force in which destroyers and submarines are detached from the CVBG to join the amphibious forces, create a powerful strike package and act as a force multiplier as well. Sea Strike not only includes the expeditionary forces and associated MPF ships but also the CVBG, surface action groups,

submarines with special mission forces, and assured access units. Two aircraft carriers can conduct round-the-clock flight operations which equates to continual air strikes from carrier-based aircraft. Combine that with the arsenal of Tomahawk land attack cruise missiles with pinpoint accuracy and special forces embarked in submarines and you've got a lethal strike package.

As enemy Weapons of Mass Destruction (WMD) capabilities increase and political entanglements create problems for overseas basing, it is advantageous for the United States and coalition forces to operate and strike from a secure, mobile network of Sea Bases. These forces draw from supplies and common ammunition and a network centric C⁴ISR suite that is a battle space force multiplier. These capabilities provide the combatant commander or JFMCC with significantly increased operational effectiveness, and a valuable addition to the strategic basing support provided by friends and allies around the world.³⁹ Sea Strike also enables faster reaction to combatant commander tasking. Because units are on station or can quickly steam into the theater and strike without having to request over flight rights and can remain on station for extended periods of time, deployment timelines are accelerated.

MEF, MEB, MEU, MAGTF

Amphibious operations can be characterized by four linkages. The first is an integration of the Navy and Marine Corps. Close coordination between both services is critical throughout the mission. The second is the rapid and unimpeded build up of combat power ashore, building quickly to fully coordinated striking power. The third is the concept of forces task organized based on the mission. Finally, because of the complexity of operations and high degree of cooperation and effort required for success, amphibious operations require an exceptional degree of unity and operational cohesiveness.⁴⁰ A common thread throughout amphibious operations and expeditionary warfare is the flexible, scalable and fast responding combined-arms force capable of responding across the spectrum of conflict.

The Marine Corps operates as an integrated, combined-arms force that includes air, ground and combat service support elements also known as MAGTFs. They work from bases already established forward or deployed naval amphibious ships and are ready for immediate employment, or they may deploy from their own bases. MAGTFs are trained, equipped and organized from the operating forces assigned to Marine Corps Forces Atlantic (MARFORLANT); Marine Corps Forces Pacific (MARFORPAC); and Marine Corps Forces, Reserve (MARFORRES). MARFORLANT and MARFORPAC provide the geographic combatant commander with scalable MAGTFs. MARFORRES supplies reserve Marines into established

MAGTFs to augment active duty forces. Nearly sixty five percent of the 174,000 active duty Marines are assigned to the combat and combat support forces of the two Marine Forces (MARFORs). The commanders of Marine Forces Atlantic and Pacific provide the geographic combatant commanders with versatile MAGTFs and provide advice on the employment of Marine forces. Scalable by design, Marine forces are organized into Marine Expeditionary Forces (MEFs), Marine Expeditionary Brigades (MEBs) and Marine Expeditionary Units (MEUs).⁴¹

MEFs are task-organized to fight and win our Nation's battles in conflicts up to and including a major theater war.⁴²

There are three Marine Expeditionary Forces, strategically positioned for global coverage. I MEF, based in southern California at Marine Corps Base Camp Pendleton, and III MEF, which is forward deployed on Okinawa, mainland Japan, and Hawaii, fall under the control of the Commander, Marine Forces, Pacific. II MEF, located at bases in North and South Carolina, falls under the control of the Commander, Marine Forces, Atlantic.⁴³

The MEF is the Marine Corps' principal fighting organization, especially for larger crises or MTW. MEFs are normally commanded by a Lieutenant General and can include one or more divisions in its Ground Combat Element (GCE), one or more aircraft wings in its Aviation Combat Element (ACE) and one or more force service support groups in its Combat Service Support Element (CSSE). MEFs are the largest and only standing MAGTFs, existing in peacetime as well as wartime. The three standing MEFs are all located near ports, airports and major interstate highways to allow for deployment of Marine Corps combat power worldwide.⁴⁴ Depending on the combatant commander's requirements, MEFs can be tailored to suit operations in close terrain such as cities and jungles or high intensity operations which require reinforcement with artillery, armored and air units. Each carrier air wing typically includes a Marine squadron. This may affect Marine air composition should the MEF deploy. Table 1 lists the elements of the GCE, ACE, and CSSE that make up a MEF.

<u>Ground Combat Element</u>	<u>Aviation Combat Element</u>	<u>Combat Service Support</u>
17,900 personnel	14,800 personnel	9,500 personnel
1 Headquarters battalion	12 KC 130's	Headquarters Battalion
3 Infantry battalions	48 F/A-18 CD	Medical Battalion
1 Artillery Regiment	36 F/A-18 D	Maintenance Battalion
1 Tank Battalion	60 AV-8B	Dental Battalion
1 AAV Battalion	10 EA-6B	Motor Transport Battalion

1 Light Armored Battalion	72 CH-46E	Supply Battalion
1 Combat Engineer Battalion	24 CH-43D	Landing Support Battalion
58 M1A1 Tanks	32 CH-53 E	Engineer Support Battalion
223 AAVs	36 AH-7W	
130 Light Armored Vehicles	18 UH-1N	
72 155 MM Howitzers	12 Hawk Launchers	
161 Short and Long Mortars	60 Avengers	
108 Dragon Anti-tank missiles	30 Stingers	
196 TOW Missiles		

TABLE 1: MARINE EXPEDITIONARY FORCE

MEBs are task-organized to respond to a full range of crises, from forcible entry to humanitarian assistance.⁴⁵ Essentially, the MEB brings a middle-weight capability to the combatant commander much like the Army's Brigade Combat Teams (BCT). The difference is that the MEB is more sustainable because it can be specifically tailored to meet mission demands.⁴⁶

A MEB is “a Marine air-ground task force that is constructed around a reinforced infantry regiment, a composite Marine aircraft group, and a brigade service support group. The MEB, commanded by a general officer, is task-organized to meet the requirements of a specific situation. It can function as part of a joint task force, as the lead echelon of the MEF, or alone. It varies in size and composition, and is larger than a MEU but smaller than a MEF. The MEB is capable of conducting missions across the full range of military operations.”⁴⁷

In an interview aboard the USS WASP, MGEN John Goodman, commander 2nd MEB and deputy commander of II MEF said,

“the MEB is a force structure that supports 21st Century Marine doctrine such as OMFTS, which outlines a focus on striking targets as much as 220 miles inland with fast-moving and sustainable forces. To get the speed, range and firepower that will take the Marines there, the service now supports several major acquisition programs including the AAV, MV-22 and Short Takeoff and Vertical Landing (STOVL) Joint Strike Fighter (JSV)”.

MEBs can be drawn from forces in the United States or from ARGs already deployed. Additionally, they can link up with MPF squadrons that support MEB operations. Units within one of the three MPF shipping squadrons (5 ships per squadron) provide equipment and sustainment capability to support the MEB for 30 days. The MEB can be on station ready for action in 17 days or less. A MEB size force is “something that has been advertised before, but has fallen out of use due to a lack of joint understanding of the MEB and a shortfall in the

Marine Corps' ability to get the MEB into the mainstream of combatant commander's thought process" MGEN Goodman noted. For the combatant commander, the MEB and its' 17,000 personnel, three infantry battalions, one tank battalion, one light armored vehicle company, two armored vehicle companies, five artillery batteries and twelve squadrons of aircraft, provides a potent task-organized force.⁴⁸ Table 2 lists the elements of a MEB.

<u>Aircraft/Launchers</u>	<u>Major Weapons</u>	<u>Major Equipment</u>
20 AV-8B	58 M1A1 Tanks	1 Med Girder Bridge
36 F/A-18	109 AAV	1 30 Ton Crane
5 EA-6B	25 LAV	5 7.5 Ton Cranes
12 KC-130	30 155mm HOW	2 600k Gal Fuel Systems
24 CH-53E	24 81mm Mortars	44 3-100kw Generators
18 AH-1W	48 TOW launchers	41 Water Purification Units
24 CH-46E	24 Javelins	116 Forklifts
9 UH-1N		5 Bulldozers
45 Stinger Teams		3 Road Graders

TABLE 2: MARINE EXPEDITIONARY BRIGADE

The MEU is the standard forward-deployed Marine expeditionary organization. MEUs are deployed to the Mediterranean Sea, the Western Pacific and the Indian Ocean or Arabian Gulf region.⁴⁹ MEUs are task-organized to provide a forward deployed presence to promote peace and stability and are designed to be the Marine Corps' first-on-the-scene force.⁵⁰ The MEU is embarked aboard three ships in the ARG and provides the combatant commander with a quick, Sea Based reaction force for a wide variety of situations. The MEU may be the first U.S. force at the scene of a rapidly evolving crisis and can enable the flow of follow on forces to the area as well as coordinate with non-governmental organizations to effect relief operations if required.⁵¹

Normally commanded by a Colonel, the MEU deploys with fifteen days of supplies and operates with a Command Element (CE) that includes command and control, force reconnaissance, company and signals intelligence. The GCE is made up of an artillery reinforced infantry battalion, reconnaissance, engineers, tanks, light armored reconnaissance units and assault amphibious vehicles. The ACE in the MEU is comprised of combat assault helicopters, transport helicopters, vertical/short takeoff and landing aircraft along with two KC-130 air re-fueler aircraft that shadow the ARG from land based airports in theater, while the

CSSE supports the force. Although the MEU is not a special operations force per se, it can support special operations forces and execute certain maritime special operations missions. These include reconnaissance and surveillance; specialized demolition; tactical recovery of aircraft and personnel; seizure/recovery of offshore energy facilities; seizure/recovery of selected personnel or material; visit, board, search and seizure of vessels and in extremis, hostage recovery.⁵² Table 3 lists the elements of a MEU.

<u>Aircraft/Launchers</u>	<u>Major Weapons</u>	<u>Major Equipment</u>
6 AV-8B	15 AAV	5 10kw Generators
2 KC-130	8 LAV	4 30kw Generators
4 CH-53E	6 155mm HOW	20 5 Ton Trucks
12 KC-130	4 Tanks	1 5 Ton Wrecker
4 AH-1W	8 81mm Mortars	1 Water Purification unit
3 UH-1N	12 60mm Mortars	1 Forklift
2 Avengers	8 TOW Launchers	1 Bulldozer
15 Stinger Teams	8 Javelins	4 Water Trailers

TABLE 3: MARINE EXPEDITIONARY UNIT

AMPHIBIOUS MISSIONS THROUGHOUT THE SPECTRUM OF CONFLICT

Expeditionary operations are relevant throughout the entire spectrum of conflict. It's this large selection of capabilities that makes amphibious forces a critical part of any combatant commanders plans that include the following:

- The deployment of military forces to the scene of the crisis or conflict and their requisite support some significant distance from their home base.
- The establishment of forward bases, land or sea, from which military power can be brought to bear on the situation.

Regardless of the size and scope of the mission, the Marine Corps' principal organization for the conduct of all missions across the range of military operations is the MAGTF.⁵³

"MAGTFs are balanced, combined-arms forces with organic ground, aviation, and sustainment elements. They are flexible, task-organized forces that can respond rapidly to a contingency anywhere in the world and are able to conduct a variety of missions. Although organized and equipped to participate as part of naval expeditionary forces, MAGTFs also have the capability to conduct sustained operations ashore. The MAGTF provides a combatant commander or

other operational commander with a versatile expeditionary force that is capable of responding to a broad range of crisis and conflict situations.⁵⁴

MAGTFs are built around the requirements dictated by the level and scope of the crisis. There is no “prescription” for assignment of forces, but some generalities can be drawn.

A MEF is a major OME in an MTW and can conduct and sustain expeditionary operations in any environment. It's the largest standing combined arms unit in both peacetime and in war and is well suited for MTW. Although it deploys with sixty days of sustainment, it can extend operations with support from other services that will be engaged in the MTW as well. The MEF commander and his staff can form the nucleus for a joint task force or functional component headquarters.⁵⁵

A MEU is well suited for SSCs. This Sea Based force can be used to project power almost immediately if the combatant commander requires. A MEU provides the combatant commander with a quick reaction expeditionary force that can respond almost immediately to a variety of SSCs such as limited forced entry, raids, disaster relief or non-combatant evacuations. As the MEU is forward deployed, it may be the first U.S. force on the scene and can enable the flow of follow on forces into ports and airfields. While coverage is not global, the deployed ARGs/MEUs afford the gaining combatant commander with a baseline expeditionary warfare capability with the ability to scale the response appropriately to the situation while maintaining a continuous, Sea Based presence capable of responding as the situation dictates.⁵⁶

In contrast to large-scale sustained combat operations, Military Operations Other than War (MOOTW) focuses on deterring war, resolving conflict, promoting peace, and supporting civil authorities in response to domestic crisis.⁵⁷ The Marine Corps role in MOOTW is to provide the combatant commander with an immediate response and facilitate the flow of follow-on forces and Non-governmental Organizations. (NGOs). Political objectives are the driving force behind MOOTW at every level from strategic to tactical. MOOTW contributes to the attainment of national objectives through deterrence, forward presence and crisis response. The deployed ARG is able to respond to MOOTW. In the deterrence phase, a potential aggressor might be less willing to carry out an aggressive act if an ATF is just off the coast, deterring the aggressor with forward presence. However, if deterrence and forward presence fail, U.S. forces are able to respond rapidly either unilaterally or as part of a multi-national effort. The ability of the combatant commander to respond rapidly with appropriate MOOTW options to potential or actual crisis contributes to regional stability.⁵⁸

Maritime expeditionary forces are a better fit to short notice, short duration MOOTW; longer duration operations are better suited to the more robust sustainment capabilities afforded by Army forces. The peacekeeper's main mission is to establish a presence which inhibits hostile actions by the disputing parties and bolsters confidence in the peace process.⁵⁹ This takes time, thus peace keeping and peace enforcement operations are typically longer duration and as such, are not appropriate missions for naval expeditionary forces.

Humanitarian operations are becoming more routine.⁶⁰ Whether due to raised tensions because of lack of basic human needs or an oppressive regime, military forces are sometimes needed to create the peace and stability required for the required assistance from non-governmental organizations. Just twenty seven days after the terrorist attacks on the World Trade center and Pentagon, Secretary of Defense Donald Rumsfeld said that, "yesterday, we stated that our objectives were to begin to create the conditions for sustained antiterrorist and humanitarian operations."⁶¹ Amphibious forces are well suited to humanitarian operations. They can respond rapidly to emergencies or disasters and achieve order in austere locations. This response includes providing security, logistics, engineering and medical support.⁶² U.S. public opinion has traditionally been supportive of humanitarian intervention. When asked how he felt about taking part in humanitarian missions in Sierra Leon during Operation Noble Obelisk in which sailors and Marines assigned to the USS KEARSARGE rescued two thousand five hundred civilians from forty different nations, a sailor from that ship replied, "the reason I joined was to do something like this." A Lance Corporal serving alongside added, "I knew the Marine Corps was the 911 force and what it could do. We get people to safety."⁶³ There can be no denying the positive image of U.S. forces intervening in a natural disaster or failed nation-state to help suffering masses. In short, humanitarian operations are an ideal platform from which to exert influence in poor, bankrupt, third world nations looking for leadership and help.

Noncombatant Evacuation Operations (NEO) are the evacuation of noncombatants located in a foreign country who are faced with the threat of hostile or potentially hostile actions. The deployed expeditionary force is well-suited for NEO operations, which are characterized by uncertainty. NEO operations are very similar to raids as there is a temporary occupation of an objective followed by a swift insertion of forces followed by a planned withdrawal.⁶⁴ Again, scalable forces to meet the objective allow the combatant commander to keep forces to a minimum and minimize the political implications of a larger invading force. The versatility of the MAGTF is demonstrated in the wide-range of missions accomplished by Marine forces in Operations Assured Response/Quick Response (Liberia, 1996), Nobel Obelisk (Sierra Leone, 1997), and Silver Wake (Albania, 1997).⁶⁵

CAPABILITIES

New concepts will greatly enhance the expeditionary force capabilities. Some are doctrinal changes, some are technological advancements, and some are tactical applications. Concepts such as Sea Basing and OMFTS combined with new naval platforms such as MV-22, AAV and LPD-17 build towards supporting Joint Vision 2020 by continuing the evolution of our naval forces in response to changing threats and geo-political events. Undoubtedly WMD, terrorist and information attacks will force U.S. military doctrine and weapons development/employment and research to evolve at a faster pace than ever before.

The re-tooled naval expeditionary forces seek to optimize their unique capability to respond to the full spectrum of conflict/disaster by providing the combatant commander with scalable, sustainable, interoperable, expeditionary, combined-arms forces to shape the international security environment, while at the same time increasing integration and interoperability with joint, coalition and multi-national forces.

The ability of amphibious ships to conduct "split-ARG" operations will increase significantly between now and 2010. Information Technology 21 (IT-21) programs will enhance the C4ISR capabilities and the ability to plan and conduct independent operations.⁶⁶ MV-22 will enhance personnel and part transfer through greater distances and communication advances will contribute to better command and control. By splitting the ARG, one or two ships can be detached to conduct other operations and cover greater operational requirements while still maintaining the ability to re-group should the situation warrant.

CAPABILITIES REQUIRED

ASSURED ACCESS

As the JFMCC seeks to exploit the littorals, the enemy will seek to employ anti-access mechanisms such as mines, submarines, small boats and anti-surface cruise missile attacks. These anti-access instruments provide an inexpensive, lethal and easily deployed anti-access threat. The 2001 Quadrennial Defense Review (QDR) emphasizes the need for new investments to enable U.S. forces to defeat the anti-access and area denial threats posed by mines and to operate effectively in critical areas.⁶⁷ Mines can be devastating to the expeditionary maneuver force. Examples of the operational impact of a rudimentary and aged mining capability such as that of Iraq in the Gulf War are worrisome at best. Despite Iraq's old technology and ill trained mine laying forces, USS PRINCETON (CG-56) and USS TRIPOLI (LPH-10) were severely damaged and unable to conduct further operations. Mines are an inexpensive, easy to deploy anti-access weapon. Any nation or group can build, purchase, and

stockpile mines. For this reason, funding must be set aside to field a modern fleet with organic mine warfare capabilities. Furthermore, mine warfare must be a core competency for all naval units. The development and fielding of an effective MCM (Mine Counter Measures) UUV will enhance access in the littorals for both amphibious and MPF shipping alike. As we transform our naval forces, ensuring access to littoral areas means not ignoring the threat of inexpensive, lethal, mines.⁶⁸

AMPHIBIOUS LIFT

An amphibious ship force structure capable of lifting three MEBs is required for warfighting. This requirement is based on the Department of the Navy (DON) DoNLift II study, the 1992 Mobility Requirements Study, reemphasized by congressional testimony, and the 26 June 2000 Secretary of Defense (SECDEF) report on Naval Vessel Force Structure Requirements. The DON position is that the fiscally constrained 2.5 MEB lift capability is now satisfied with the combination of active ships and mobilization assets. The future active duty amphibious fleet will consist of 36 ships: 12 Amphibious Assault Ships (7 LHDs/5 LHAs), 12 LPD-17s, and 12 LSD 41/49s.⁶⁹ The LPD-17 (San Antonio) class is replacing the LPD-4 (Austin) class and must continue to be fully funded. LPD-17 cost overruns and production delays could jeopardize fully funding the program which would have a negative impact on ARG rotation and lift capability. Research and development for LHD (jumbo) must continue in order to find a viable replacement for LHAs 1-5 which reach the end of their 35 year service life at a rate of one per year starting in 2011. More importantly, extending the life of LHAs 1-5 is “not operationally acceptable because the ship does not allow for future growth in combat systems and topside weight nor does it adequately support evolving surface craft operations.”⁷⁰

INTEROPERABILITY

The degree to which the U.S. armed forces can transform into one interoperable fighting force will have the greatest bearing on how fast the future of amphibious warfare will arrive. As previously mentioned, the tactics are not new. The technology is improving. LPD-17, LHD (Jumbo), MV-22, JSF (VSTOL) and AAV are nearing initial operational capability. The Marine Corps plans to replace its CH-46E and CH-53E helicopters with the MV-22 Osprey tilt-rotor aircraft. The MV-22's improved capabilities will allow the Marines to implement EMW more efficiently and with less risk. The Navy and Marine Corps plan to procure 425 MV-22's over a 25 year period. Table 4 shows the advantages of the MV-22 over the CH-46E.

Function	MV-22	CH-46E capabilities
Cruise airspeed	240 knots	110 knots
External payload capacity	10,000 lbs	4,000 lbs
Mission radius (int/ext) payload	200/50 nm	75/75nm
In-flight refueling capable	yes	no
Range	1,200 nm	236 nm

TABLE 4: MV22-CH46E COMPARISON

CONCLUSION

The NSS and the NMS both make reference to an increase in future expeditionary warfare requirements. The collapse of the Soviet Union has left the United States as the only global superpower. In fact, some French observers have recently referred to the United States as a hyper-power.

However, the power vacuum created by the fall of the Soviet Union has destabilized the world and initiated an era of increased U.S. intervention. Compounding this is a potential reduction in forward military bases and political quagmires creating an ever growing requirement for expeditionary forces. Therefore, the Navy must maintain a robust amphibious capability and develop counters to the hostile anti-access capabilities manifested in the growing threat of mines, small boat attacks, and diesel submarines. As with land forces that rely heavily on Unmanned Aerial Vehicles (UAVs), the Navy should accelerate UUV development and tactics.

Future operations will be conducted with unilateral, joint or multi-national forces and will require a ready force that can respond quickly, project power, and attack with force across the entire spectrum of conflict. Modern day amphibious forces deliver an expeditionary operations capability that can satisfy many of the combatant commander's requirements. Since 1775, the Navy and Marine Corps team has stood ready to promote peace and stability and to fight our Nation's wars. Amphibious forces provide the combatant commander with scalable, interoperable, combined arms to shape the international environment, respond quickly to the complex spectrum of crisis and conflicts, and gain access through forcible entry operations.

WORD COUNT = 8,879

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